

# **CURRENT TOPICS IN BIOMASS TRADING**

**Biomass PowerOn Stockholm**

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# ENGIE, A GLOBAL REFERENCE IN LOW-CARBON ENERGY AND SERVICES

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**101,504**

Employees

**€57.9 billion**

Revenue

**€138 million**

Spent on R&D

**€4.3 billion**

Growth investment

**100.3 GW**

Installed power generation capacity

## The energy transition in action

- **ENGIE is committed to accelerate the transition towards a carbon-neutral world, through reduced energy consumption and more environmentally-friendly solutions**
- **By focusing on 4 core activities: renewables, networks, energy solutions, thermal & supply**

# WE ACCELERATE DELIVERY & MANAGEMENT OF LOW CARBON ENERGY TO CUSTOMERS

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## Our missions

- We support clients in the transition towards a carbon neutral economy,
  - by supplying them with increasingly low carbon energy, and
  - by offering them innovative, competitive and green solutions,
- We provide best-in-class risk management services tailored to our customers' individual needs
- We connect assets (generation, thermal, renewables) to customers and markets

## Our expertise

### Energy supply & global commodities

Supplying Natural gas, green and low carbon gas (biomethane, hydrogen), power, renewable power (PPA), LNG and biomass

### Green & low carbon solutions

Customized solutions to help clients achieve their ESG goals (GoO, energy tracing, offsets, energy efficiency) through market expertise and innovation

### Risk management & market access

Managing the risks of physical & financial energy portfolio with bespoke hedging strategies, competitive market access & first-class market trends

### Asset management & flexibility services

First-class trading strategies, optimization of the flexibility and valuation of internal & external clients' assets

# AGENDA

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## Expanding EU regulation affecting the biomass trade

- Implementation of RED II
- Emissions from shipping and ETS
- EUDR

A closer look at the position of biomass in the energy markets

# RECAST OF THE RENEWABLE ENERGY DIRECTIVE (DIRECTIVE (EU) 2018/2001 OR « RED II ») - A RECAP

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- RED II recasts and repeals the previous (« 20/20/20 ») directive (2009/28/EC)
- Establishes a common system for the promotion of energy from renewable sources
- Sets binding EU targets for the share of renewables in the energymix by 2030 (32%)
- **Strengthened EU sustainability criteria for bioenergy**

# RED II Strengthened EU sustainability criteria for biofuels, bioliquids and biomass fuels

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Compliance with RED II sustainability criteria necessary for:

- Contributing towards the EU target (and the Member States share of it) of renewable energy
- Measuring compliance with renewable energy obligations (eg. Annual increases of use of RE)
- **Eligibility for (public) financial support for the consumption of biofuels, bioliquids and biomass fuels**
- **To maintain zero-rating of emissions from biomass for installations subject to carbon quota (EU ETS)**

# RED II

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Installations in the scope of RED II:

- Sustainability and GHG emission savings criteria only apply to installations with rated thermal input of 20 MW or higher
- GHG emission savings of 70% apply specifically to installations starting operation from 1 January 2021 to 2025 (and of 80% for installations starting after 31 December 2025)
- Minimum efficiency requirements for certain power production units (> 50 MWhth, in service after 25 Dec 2021)

# RED II

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- Economic operators may prove compliance with RED II:
  - By the use of « voluntary » certification schemes approved by the Commission
  - By the use of « national » certification schemes approved by the Commission
  - Or by assembling the information supported by an adequate standard of independent auditing



# RED II -> ETS Change

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- Following the RED II directive, biomass installations submitted to the European quota obligation (EU ETS) need to prove compliance with RED II criteria to keep/set emissions from biomass at zero.
- 8 March 2022: derogation to maintain default carbon neutrality for biomass for one more year until **31 December 2022**.

In Article 38 of Implementing Regulation (EU) 2018/2066, the following paragraph 6 is added:

'6. By way of derogation from paragraph 5, first subparagraph, Member States, or competent authorities as appropriate, may consider as fulfilled the sustainability and greenhouse gas emissions saving criteria referred to in that paragraph for biofuels, bioliquids and biomass fuels used for combustion from 1 January 2022 to 31 December 2022.'

# RED II - Current Situation

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- End of Q3 2023, a majority of industrial wood pellet producers not (yet) RED II certified
  - Auditing capacity for RED II voluntary schemes stretched or oversollicited
  - Member States have given/may give derogations leading to different effective dates of the RED II country legislation.
- ⇒ **Risk/Uncertainty** for operators submitted to the carbon quota market and burning non RED II certified biomass in 2023 (for which operators need submit to submit quote or prove exemption in 2024)

# ETS – Emissions from shipping

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- As from **2024 CO2 emissions from shipping** within or to/from EU subjected to EU ETS carbon quota.
- As from **2026 other GHG emissions** (methane, Nox.) subject to the EU ETS
- **No free EUA allowances** are allocated for shipping emissions
- Monitoring, Reporting Regulation (MRR) has been adapted to verify emissions from Shipping

# ETS – Emissions from shipping

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- 50% of emissions between non-EU and EU ports or vice versa
- 100% of emissions within EU ports
- 100% of emissions between EU ports
- Exemptions apply (emergency port calls/port calls just for bunkering etc..)

# ETS – Emissions from shipping: Phase-in

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Gradual phase-in of the EUA obligation for :

- 40% of verified emissions in 2024
- 70% of verified emissions in 2025
- 100% of verified emissions in 2026

# ETS – Emissions from shipping: Cost Impact - example

Example of a (conservative) 2024 cost estimate: USEC to ARA/supramax

A USEC - ARA	3735 nautical miles
B km/nautical mile	1,85 Km/nautical mile
C Backhaul	0,70
D Supramax GHG factor (JRC EU Value)	6,18 gCO2/t.km
E Tonnage pellets per voyage	45.000 mt
F ETS Factor	20% = 40% x 50%
G EUA (conservative)	100 €/tCO2
H Total cost per voyage	54.962 € $H=A*B*D*E*F*G/C/1000000$
J Total cost per ton pellet	1,22 €/t $J=A*B*D*F*G/C/1000000$

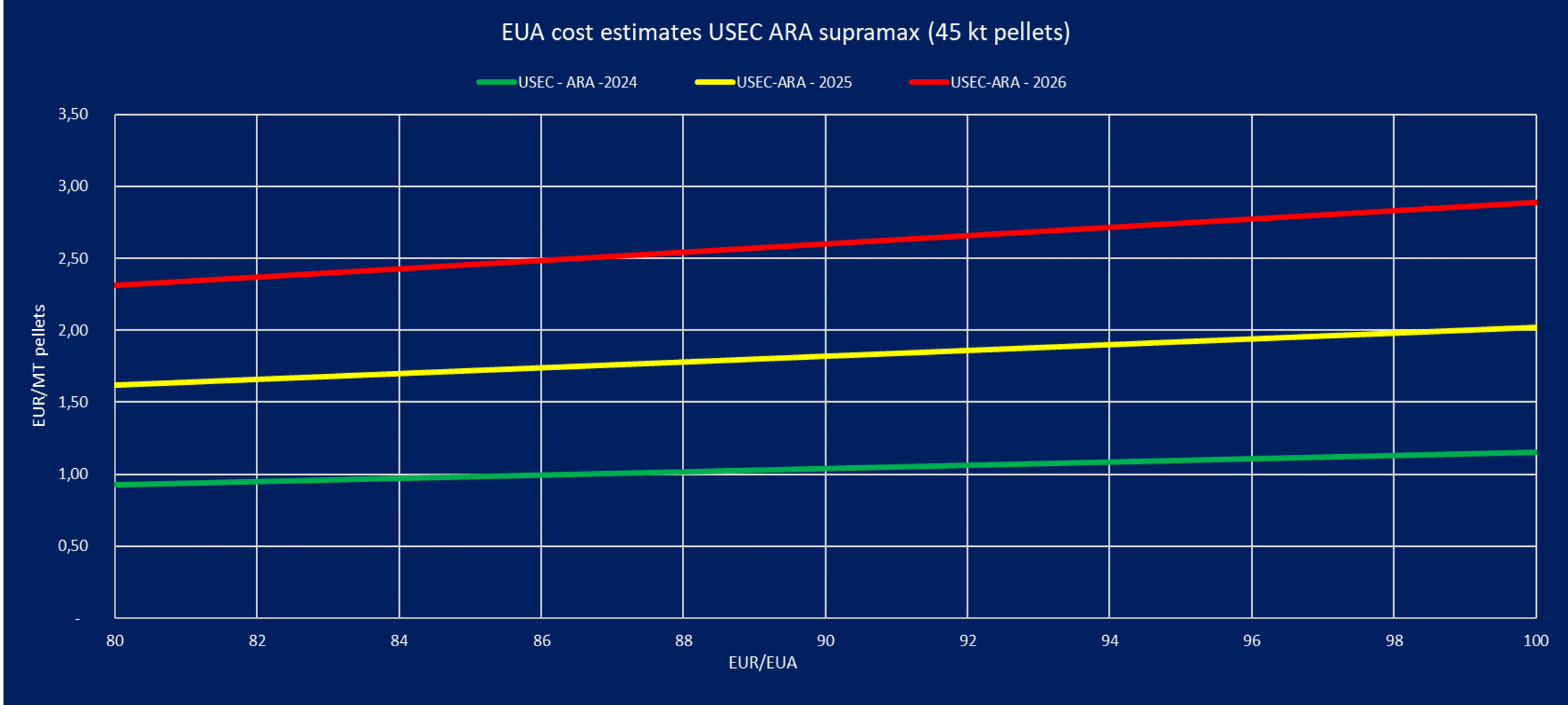
# ETS – Emissions from shipping: Cost Impact?

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Emission from Vessels < 5000 GT exempt from EUA obligation

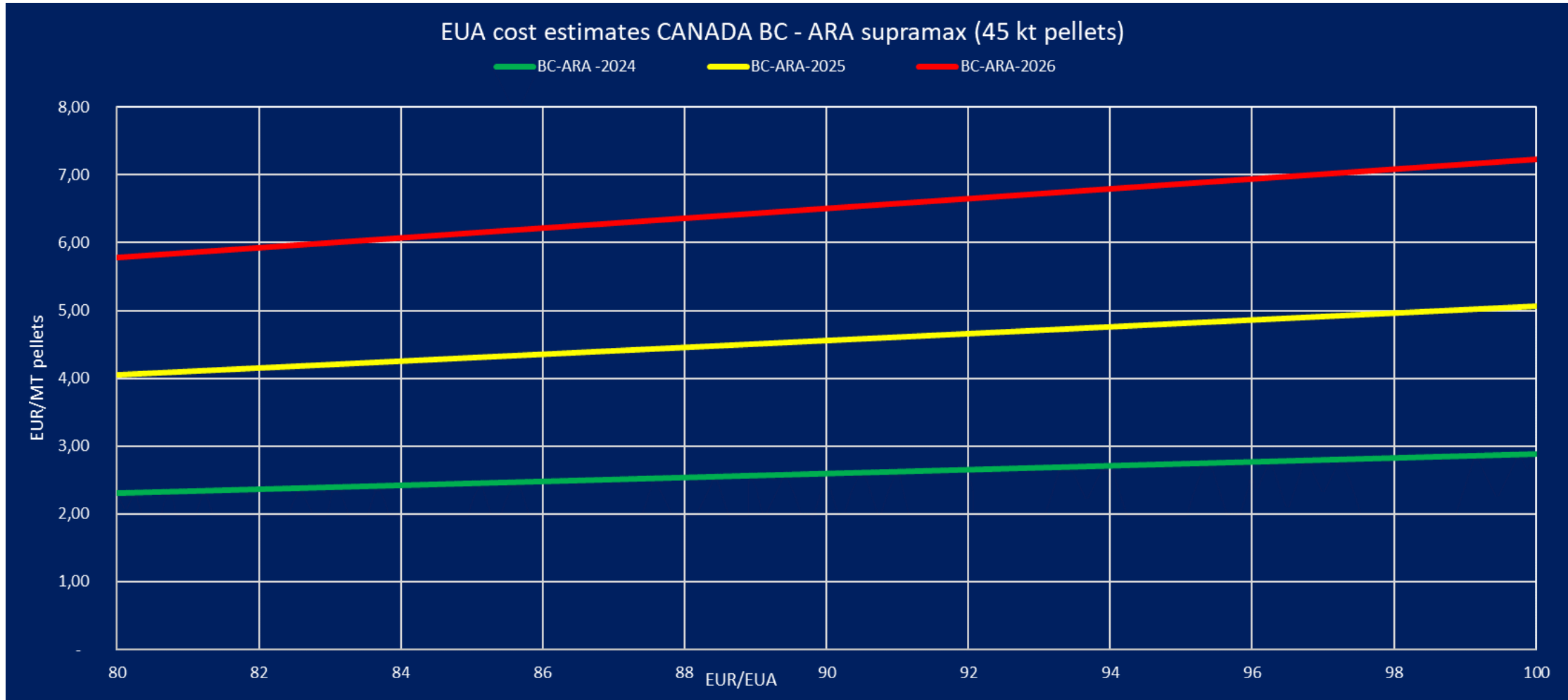
=> Many vessels of the popular coaster size with a wood pellet capacity of +/- 4000 will satisfy this condition.

# ETS – Emissions from shipping: Cost Impact?



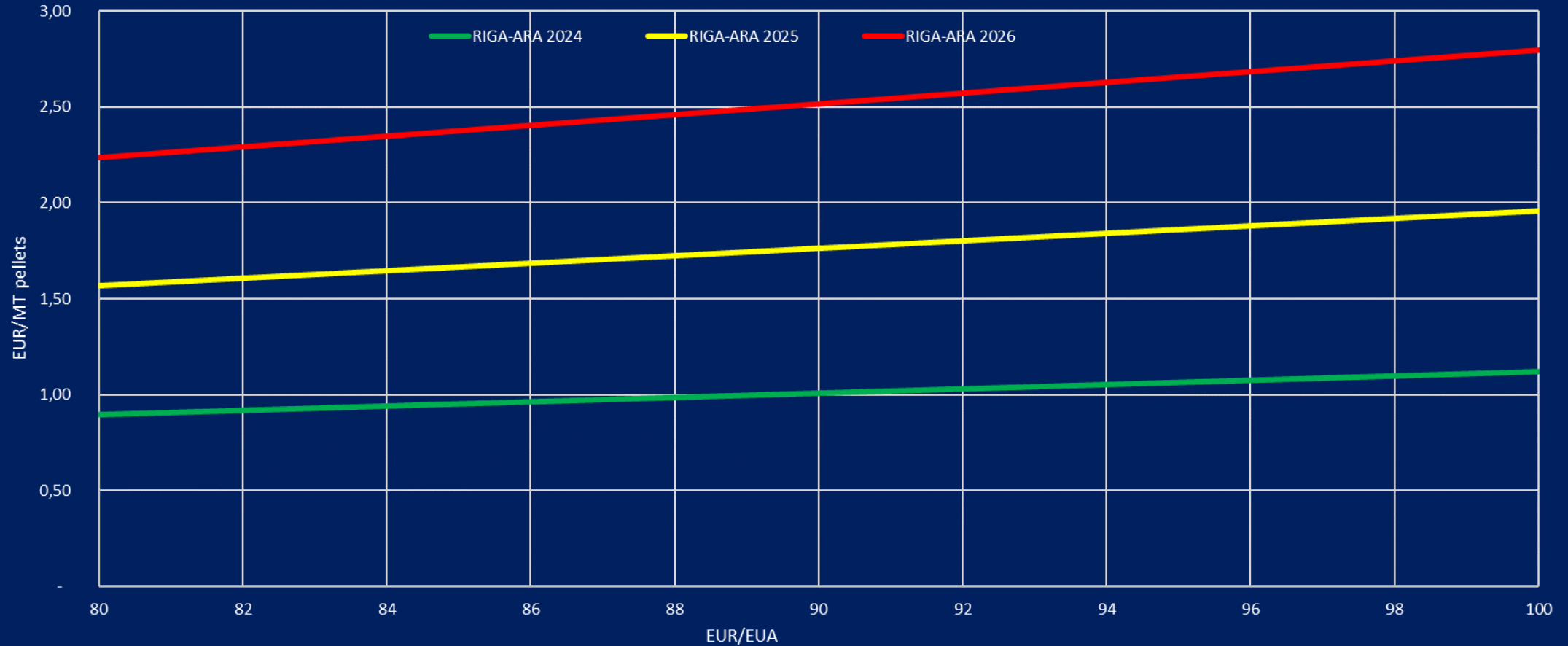


# ETS – Emissions from shipping: Cost Impact?



# ETS – Emissions from shipping: Cost Impact?

EUA cost estimates RIGA - ARA handysize (30 kt pellets)



# EUDR – EU Deforestation Regulation

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- Applies starting **December 2024**
- **Replaces** and repeals the **EUTR** (EU Timber Regulation in use since 2013)
- Places **duty of due diligence** on « **operators** » and « **large traders** »
- Aims to reduce the risk of importing/exporting products resulting from deforestation

# EUDR – Main attention points

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- Applies to import to and export from the EU
- Due diligence is required by « operators » and « **large traders** »
- Requires knowledge of the **geo-location** of the harvested wood or perimeter
- Applies to a **larger range of timber products** as well as some **non-timber products**
- EUDR also covers **social criteria**

# Competitiveness of industrial biomass – a lookback in recent history -

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Graph example (next slide): historic (2016-2023) clean spreads for power production

- Clean spark spread
- Clean dark spread
- Wood pellet spread (Bark spread)

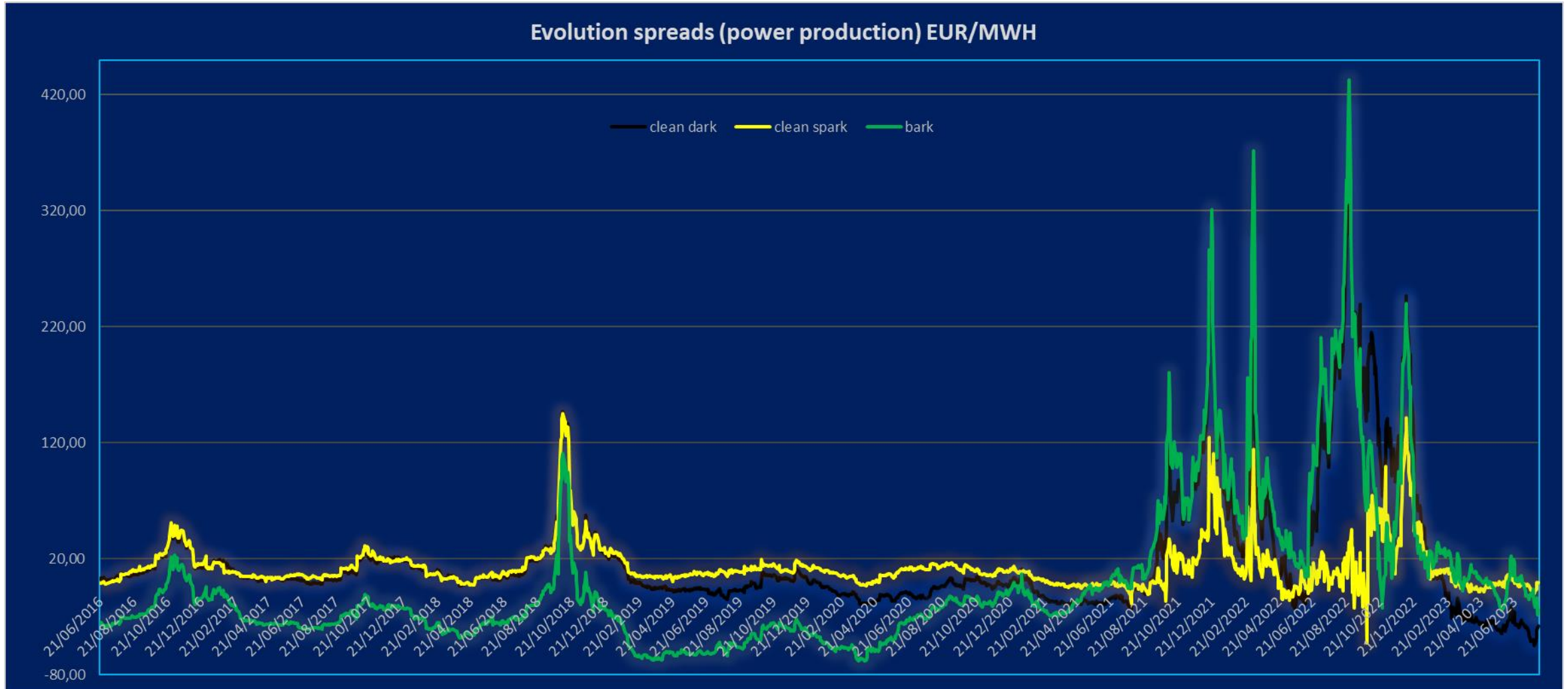
Based on daily month ahead values:

- Month ahead API2 coal prices
- Month ahead gas prices (TTF)
- (Weekly) Wood Pellet spot (deliveries within 90 days) prices Argus CIF NWE
- Month ahead power prices (example given for Belgium)

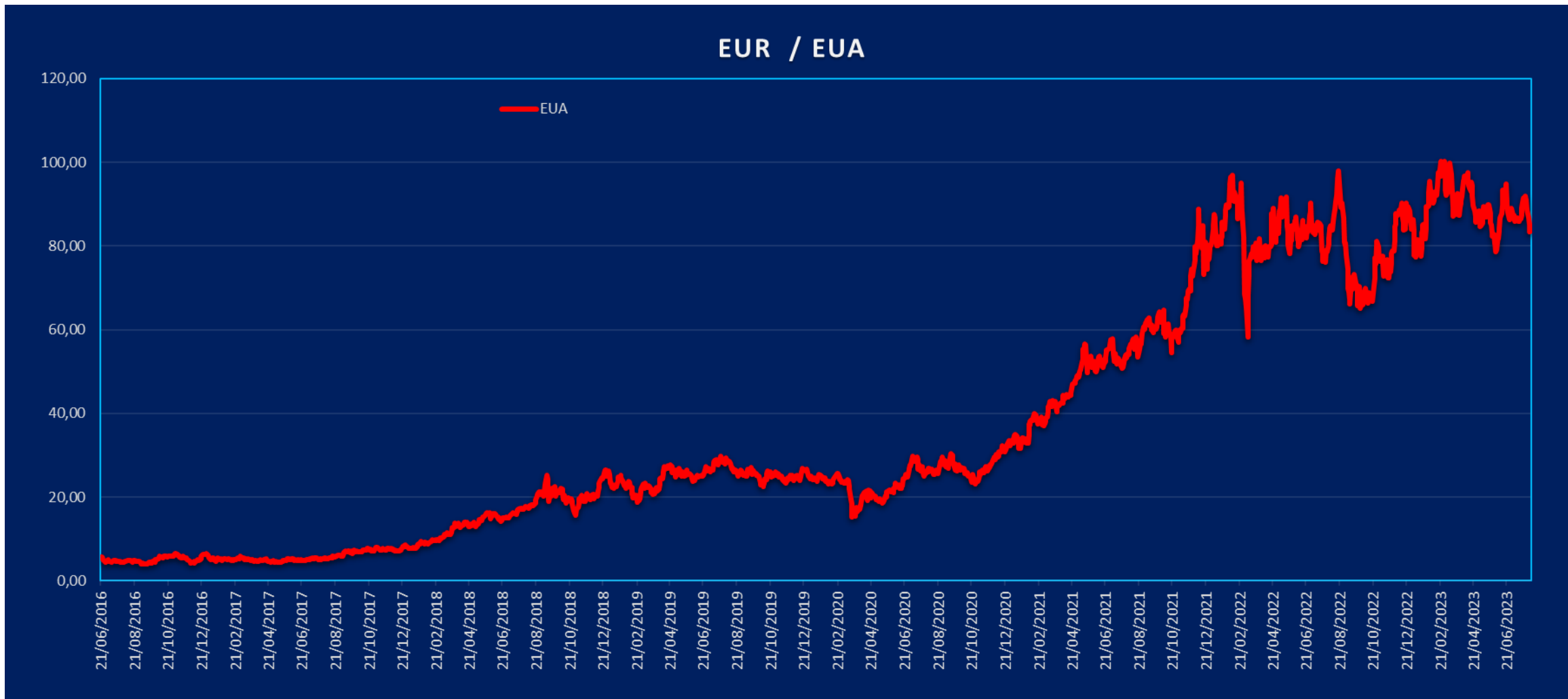
Assumed power plant efficiencies: 55% for gas (CCGT), 36% of coal and biomass (conservative)

Assumed generation without support (biomass)

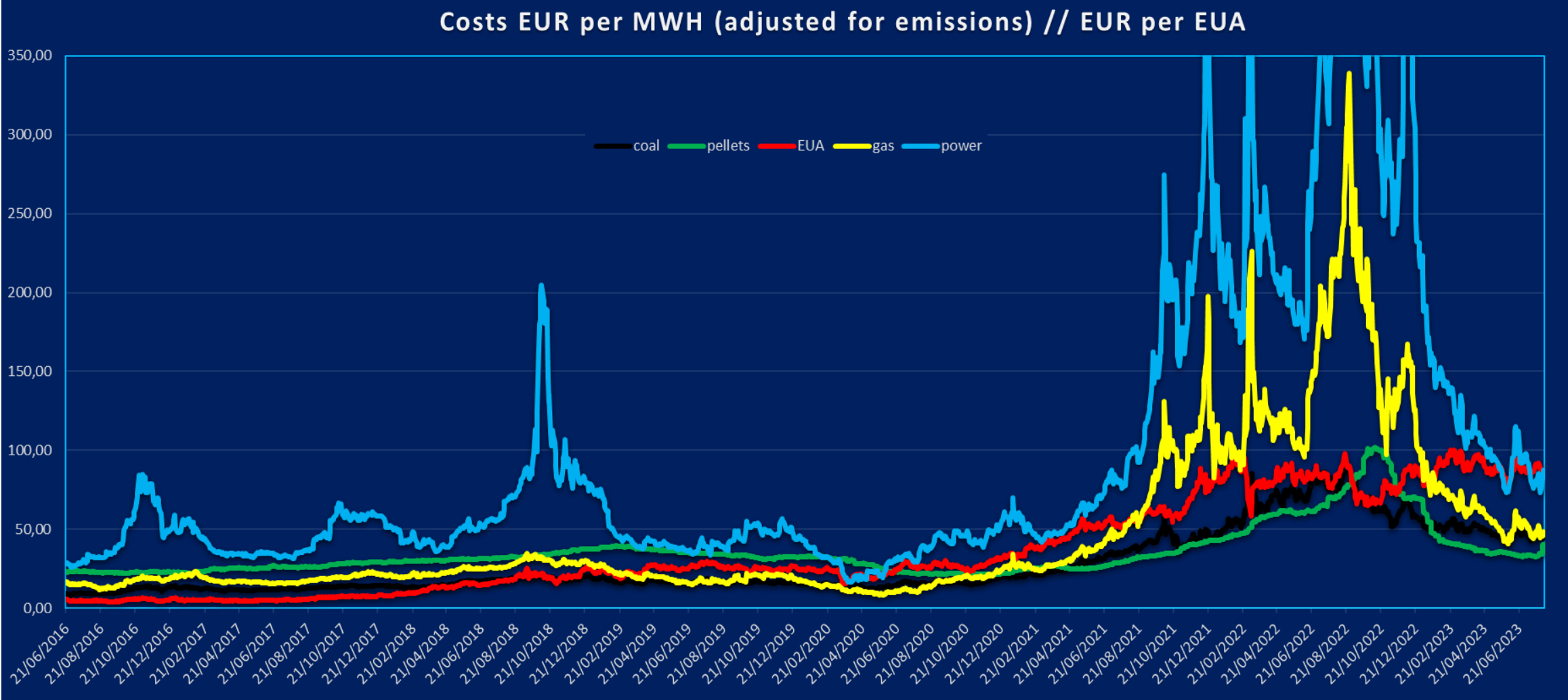
# Competitiveness of industrial biomass – spreads/power



# Competitiveness of industrial biomass – evolution of EUA value



# Competitiveness of industrial biomass – costs (adjusted for emissions)





# Competitiveness of industrial biomass – recent history

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Steep increase in the cost of carbon:

⇒ Industrial heat from biomass competitive with fossil alternatives

⇒ (Unsupported) power generation with biomass may be competitive from time to time depending on

- High gas/coal prices relative to biomass
- High power prices (e.g. periods with low availability of other renewables)
- Valorisation of heat
- Any combination of the above

# Competitiveness of industrial biomass – other observations

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- Less CFD generation in the UK has eased wood pellet shortage and helped mitigate wood pellet prices over the last year.
  - New industrial demand is mostly for process heat or district heating for which installations are often fuel flexible (especially in conversion phase)
  - Power and fuel price volatility may create occasional opportunities for unsupported power generation with biomass
  - Investment in more biomass storage
  - Occasional/Periodic biomass imports from Asia
- ⇒ These market occurrences tend to **mitigate spot price extremes** for biomass



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